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IS 12838 (1989): Blazer cloth [TXD 4: Wool and Wool Products]

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IS 12838 : 1989

Indian Standard

BLAZER CLOTH — SPECIFICATION

भारतीय मानक

कोट का कपड़ा — विशिष्टि

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

May 1990 **Price Group 3**

Wool and Wool Products Sectional Committee, TXDC 4

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards on 15 November 1989, after the draft finalized by the Wool and Wool Products Sectional Committee had been approved by the Textile Division Council.

Blazer cloth (all wool or blended wool/part wool with man-made fibres) is a widely used consumer item within the country. It is hoped that the publication of this standard would ensure the availability of blazer cloth of desired quality to the consumers.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

AMENDMENT NO. 1 MARCH 1993
TO
IS 12838 : 1989 BLAZER CLOTH — SPECIFICATION

(*Table* 2) — Substitute the following for the existing table.

'Table 2 Sample Size
(*Clauses* 8.3 *and* 8.4)

Lot Size	Sample Size	Permissible Number of Non-conforming Pieces	Sub-sample Size
(1)	(2)	(3)	(4)
Up to 8	2	0	2
9 to15	2	0	2
16 to 25	3	0	2
26 to 50	5	0	2
51 to 100	5	0	2
101 to 150	8	0	3
151 to 300	13	1	5
301 and above	20	1	7'

(TX 04)

Reprography Unit, BIS, New Delhi, India

Indian Standard

BLAZER CLOTH — SPECIFICATION

1 SCOPE

1.1 This standard prescribes the requirements of blazer cloth.

2 REFERENCES

2.1 The Indian Standards listed in Annex A are necessary adjuncts to the standard

3 TERMINOLOGY

3.0 For the purpose of this standard, the following definitions along with those given in IS 11206 : 1984 shall apply.

3.1 Blazer Cloth

Wool fabric somewhat heavily milled and raised and finished with a short nap.

3.2 Wollen Spun Yarn

A yarn spun from wool or its blend with man-made fibres, which has been carded but not gilled or combed before spinning and in which the fibres cross each other in every direction presenting a rough surface.

3.3 Worsted Spun Yarn

Yarn spun from long wool fibre slivers after removal of short fibres on the rectilinear or noble comb and drawing through gill boxes.

3.4 Virgin Wool

Pure and new wool. Commercially it means wool that has not been processed or used before and is thus distinctly different from reprocessed or re-used wool.

4 MANUFACTURE

4.1 Blazer cloth shall be manufactured from yarn spun from virgin wool or their blends with man-made fibres on woollen or worsted system. The man-made fibres to be used for blending with wool and the blend composition shall be as agreed to between the buyer and the seller

5 REQUIREMENTS

5.1 Freedom from Defects

The blazer cloth when visually examined both against light and on a flat surface shall be free from objectionable flaws. The objectionable flaws shall be those which immediately strike the eyes of the person examining the cloth and shall include:

a) Missing ends and picks,

b) Floats,

c) Stains,

d) Weft bars and warp section marks,

e) Big slubs, knots and specks, unless they are a part of the design,

f) Prominently noticeable thick and thin places,

g) Cuts and holes; and

h) Dyeing defects (streaks, patches, etc)

5.2 The blazer cloth shall meet the requirements as given in Table 1.

Table 1 Requirements of Blazer Cloth

(*Clause* 5.2)

Sl No. (1)	Characteristic (2)	Requirement (3)	Method of Test (4)
i)	Length Tolerance	As declared No negative tolerance	IS 1954 : 1969
ii)	Width Tolerance	As declared ± 2 cm	
iii)	Mass, g/m^2 Tolerance	As declared ± 5 percent	IS 1964 : 1970 (*see* Note 1)
iv)	Breaking strength on 15 × 20 cm strips, *Min*, N:		IS 1969 : 1985
	a) Warpway	475	
	b) Weftway	325	

(*Continued*)

Table 1 (*Continued*)

Sl No. (1)	Characteristic (2)	Requirement (3)	Method of Test (4)
v)	Drape, percent	40 to 55	IS 8357 : 1977
vi)	Crease recovery angle, *Min*:		IS 4681 : 1981
	a) Warpway	125°	
	b) Weftway	125°	
vii)	Pilling resistance	4 or better	IS 10971 : 1984
viii)	Wool content, percent		
	a) All wool blazer cloth	100 percent subject to tolerance up to 0 3 percent for inadvertent impurities and up to 5 percent for materials other than wool fibres used for decorative/ornamentation effect	IS 8476 : 1977
	b) Blazer cloth (blended wool/ part wool)	± 3 units on the agreed percentage (*see* Note 2)	IS 2006 : 1988
ix)	Colour fastness to:		
	a) Light	4 or better	IS 686 : 1957 or IS 2454 : 1967
	b) Washing : Test 2 (for all wool blazer cloth)		IS 3361 : 1979
	i) Change in colour	3-4 or better	
	ii) Staining on adjacent fabric	3-4 or better	
	c) Washing : Test 3 (for blended wool/ part wool blazer cloth):		IS 764 1979
	i) Change in colour	3-4 or better	
	ii) Staining on adjacent fabric	3 4 or better	
	d) Dry cleaning:		IS 4802 1988
	a) Change in colour	3-4 or better	
	b) Staining of the solvent	3 4 or better	
x)	Relaxation, shrinkage, percent, *Max*.		IS 665 : 1989
	a) Warpway	5·0	
	b) Weftway	4·0	
xi)	*p*H value of the aqueous extract	5 0 to 7 5	IS 1390 : 1983
xii)	Solvent extractable matter *percent, Max*	1 0	IS 5152 : 1969

NOTES

1 In case of oven-dry method for determining mass, the moisture regain value of wool shall be taken as 13 6 percent and of man-made fibres as given in IS 6503 1988 or IS 6504 : 1979.

2 Blazer cloth may be made out of wool blended with man-made fibres in blend percentage as agreed to between the buyer and the seller. However, a tolerance of ±3 units shall be permitted on the blend percentage of both wool and synthetic fibre.

AMENDMENT NO. 2 DECEMBER 1998
TO
IS 12838 : 1989 BLAZER CLOTH — SPECIFICATION

(*Page* 2, *Table* 1) — Insert the following at the end of the table:

Sl No.	Characteristic	Requirements	Method of Test
(1)	(2)	(3)	(4)
xiii)	Seam slippage at 12.0 kg load	No seam opening	Annex C

(*Page* 5) — Insert the following as Annex C to the standard after Annex B:

ANNEX C

(*Table* 1)

METHOD OF TEST FOR SEAM SLIPPAGE

C-1 PRINCIPLE

A strip of fabric is folded and stitched across its width. A weight is applied to the strip at right angles to the seam using grab-test jaws and the extent to which the seam opens is measured.

C-2 APPARATUS

C-2.1 Electrically operated, single-needle, lock-stitch sewing machine

C-2.2 Machine needles, throat-plate, feed-dog and sewing thread appropriate to the fabric to be tested.

C-2.3 *Means for gradually applying weight of 0.25 kg, 8 kg or 12 kg to the specimens* under test. The face of one jaw of each fabric-holding clamp shall measure 25 mm × 25 mm and that of the other jaw 25 mm by not less than 40 mm, with the longer dimension perpendicular to the direction of application of the load. The jaws shall be capable of holding the specimen without allowing it to slip and shall be designed so that they do not cut or otherwise weaken the specimen. *The faces of the jaws shall* preferably be smooth and flat, but engraved or corrugated faces may be used.

C-3 PREPARATION OF TEST SPECIMENS

C-3.1 Cutting of Test Specimens — Cut rectangular specimens of length approximately 180 mm and width 100 mm. Unless otherwise agreed by the parties concerned, cut five specimens with their long sides parallel to the warp and five specimens with their long sides parallel to the weft of the fabric. Select them to be as representative as possible of the bulk. Wherever possible, no two specimens in any group of five should contain the same warp or weft threads.

Condition the test specimens to the standard atmosphere for testing textiles as given in IS 6359 : 1971 for not less than 18 h. Further preparation and testing of each specimen is carried out with removal from the standard atmosphere for testing textiles.

C-3.2 Choice of Sewing Thread, Size of Needle and Stitch Length

The fabric specimen shall be stitched with mercerized cotton machine-twist sewing thread with the appropriate count, as given below:

Sewing thread		*Needle with approximate blade diameter*	*Stitch length*	*Stitches/inch (for information only)*
Cotton count	Approximate resultant count in tex			
36/3	49	1.02	2.5	10

C-3.3 Adjustment of Sewing Machine

Insert the appropriate size needle and the corresponding throat-plate and feed-dog, and set the machine to give the appropriate stitch length for the fabric under test when 'sewing' a piece of fairly stiff paper with the needle of the machine unthreaded Measure the spacing of the holes thus produced. When the stitch length has been adjusted insert a new needle of appropriate size to be used for seaming the test specimen

Adjust the thread tension as follows:

Remove the lower thread bobbin still in the case from the machine, hold the thread issuing from the bobbin case so as to allow the case to run down the thread as it unwinds Adjust the tension spring on the bobbin case so that the case runs down the thread at a slow, uniform speed Replace the bobbin case in the machine and adjust the tension of the thread feed to the needle so that when a double thickness of the fabric under test is stitched the cross-over between the needle thread and the bobbin or shuttle thread is located midway between the upper and lower surfaces of the seam.

C-3.4 Preparation of Test Specimens

Fold the specimen in half by putting the two shorter edges together and stitch a seam parallel to and at a distance of 12 mm from the fold. Increase the speed of a sewing machine to the specified range as quickly as possible and maintain it with that range until the seam has been completed. Tie the threads at each end of the seam. Cut each specimen along the fold

C-4 TEST PROCEDURE

C-4.1 Set the clamps of the weight-application device at a distance of 75 mm apart, taking care that the clamps are properly aligned and parallel.

C-4.2 Secure the specimen symmetrically in the clamps with the seam midway between and parallel to the edges of the two clamps.

C-4.3 Gradually increase the axial load on the specimen to 12 kg. Two minutes after the application of the appropriate load, determine the width of the seam opening at its widest place; measure at right angles to the seam from the edge of the undistroted fabric on one side of the seam to the edge of the undistroted fabric on the other.

C-5 CALCULATION AND EXPRESSION OF RESULTS

For each group of warp or weft specimens, calculate to the nearest 0 5 mm the mean value of the measured seam opening both at the maximum load applied and after reduction of the load to 0.25 kg.

(TX 04)

Reprography Unit, BIS, New Delhi, India

5.2.1 Construction particulars of two varieties of all wool blazer cloth are given in Annex B for information only.

6 MARKING

6.1 The blazer cloth shall be marked with the following:

a) Name of the material,

b) The words 'All Wool', 'Blended Wool' or 'Part Wool' as the case may be (*see* Note);

c) Indication of the source of manufacture;

d) Year of manufacture; and

e) Length and width

NOTE — In case of blended wool or part wool blazer cloth, the blend composition shall also be indicated in accordance with IS 1793 : 1973

6.1.1 The blazer cloth may also be marked with the Standard Mark

7 PACKING

7.1 Bale Packing

Each piece of blazer cloth shall be wrapped with low density polyethylene film of minimum 40 micron thickness and conforming to IS 2508 : 1984. A suitable number of such pieces shall again be covered with another layer of polyethylene film of the same type followed by a waterproof paper conforming to IS 1398 : 1982 and then be enclosed in an outer layer of hessian cloth/HDPE woven fabric, preferably conforming to Type 1 of IS 2818 (Part 2) : 1971/IS 6899 : 1984 in the form of a bale. The bale shall then be strapped with metallic/synthetic straps.

7.2 Case Packing

Each piece of blazer cloth shall be wrapped with low density polyethylene film of minimum 40 micron thickness and conforming to IS 2508 : 1984. A suitable number of such pieces shall then be covered with a layer of kraft paper preferably conforming to IS 1397 : 1967 followed by another layer of waterproof packing paper conforming to IS 1398 : 1982 and then be packed in wooden case which shall be finally strapped with metallic straps.

8 SAMPLING AND CRITERIA FOR CONFORMITY

8.1 Lot

The quantity of all wool blazer or blended blazer cloth having same blend composition and same width and mass delivered to one buyer against one despatch note shall constitute a lot.

8.2 The conformity of a lot to the requirements of the standard shall be determined on the basis of the tests carried out on the sample selected from the lot as indicated in Table 3.

8.3 Unless otherwise agreed to between the buyer and the seller, the number of pieces to be selected at random shall be in accordance with col 1 and 2 of Table 2. To ensure randomness of selection, IS 4905 : 1986 may be used.

Table 2 Sample Size and Criteria for Conformity

Lot Size (1)	Sample Size (2)	Permissible Number of Non-Conforming Pieces (3)	Sub-Sample Size (4)
Up to 5	2	0	1
6 to 20	3	0	1
21 to 50	5	0	2
51 to 150	8	0	3
151 to 300	13	1	5
301 and above	20	1	5

Table 3 Number of Tests and Criteria for Conformity

(*Clause* 8.2)

Sl No. (1)	Characteristic (2)	Number of Pieces (3)	Criteria for Conformity (4)
i)	Length, width and freedom from defect	According to col 2 of Table 2	Permissible number of non-conforming pieces not to exceed the corresponding number given in col 4 of Table 2
ii)	Mass per square metre	According to col 4 of Table 2	Mass per square metre in each piece shall be within ±5 percent of the declared value
iii)	Relaxation shrinkage	do	$\bar{X} + 0{\cdot}4\,R \leqslant$ specified value
iv)	Breaking strength	do	$\bar{X} - 0{\cdot}4\,R \geqslant$ specified value
v)	Drape percent, crease recovery angle, pilling resistance, colour fastness, wool content percent/blend percentage, *p*H value and solvent extractable matter percent	do	All the test specimens satisfy the relevant requirements

$\bar{X}$ = Average value obtained by dividing the sum of the observed values by the number of test results

R = Range, that is, difference between the maximum and minimum in a set of observed values.

ANNEX A

(*Clause* 2.1)

LIST OF REFERRED INDIAN STANDARDS

IS No.	*Title*
665 : 1989	Method for determination of dimensional changes of fabrics containing wool on soaking in water (*first revision*)
686 : 1985	Method for determination of colour fastness of textile materials to daylight (*first revision*)
764 : 1979	Method for determination of colour fastness of textile materials to washing : Test 3 (*first revision*)
1390 : 1983	Method for determination of *p*H value of aqueous extracts of textile materials (*first revision*)
1397 : 1967	Specification for kraft paper (*first revision*)
1398 : 1982	Specification for packing paper, waterproof, bitumen laminated (*second revision*)
1793 : 1973	Guide for marking textile materials made of wool
1954 : 1969	Methods for determination of length and width of fabrics (*first revision*)
1964 : 1970	Method for determination of weight per square metre and weight per linear metre of fabrics (*first revision*)
1969 : 1985	Methods for determination of breaking load and elongation of woven textile fabrics (*second revision*)
2006 : 1988	Quantitative chemical analysis of binary mixtures of protein fibres and certain other fibres (*second revision*)
2454 : 1985	Method for determination of colour fastness of textile materials to artificial light (xenon lamp) (*first revision*)
2508 : 1984	Specification for low density polyethylene film (*second revision*)
2818 (Part 2) : 1971	Specification for Indian hessian : Part 2 305 and 229 g m^2 at 16 percent contract regain (*first revision*)
3361 : 1979	Method for determination of colour fastness of textile materials to washing : Test 2 (*first revision*)
4681 : 1981	Method for determining recovery from creasing of textile fabrics by measuring the angle of recovery (*first revision*)
4802 : 1988	Method for determination of colour fastness of textile materials to drycleaning
4905 : 1986	Method for random sampling
5152 : 1969	Method for estimation of benzene-methyl alcohol-soluble matter in textile materials
5911 : 1977	Fineness grades of wool tops (*first revision*)
6503 : 1988	Method for quantitative chemical analysis of ternary mixtures of protein fibres, nylon 6 or nylon 6 6 and certain other fibres (*first revision*)
6504 : 1979	Method for quantitative chemical analysis of ternary mixtures of viscose rayon, cotton and protein fibres (*first revision*)
6599 : 1984	Specification for high density polyethylene (HDPE) woven fabrics (*first revision*)
8357 : 1977	Method for assessment of fabric drape
8476 : 1977	Method for determination of wool content in wollen textile materials
10971 : 1984	Method for determining pilling resistance of fabric
11206 : 1984	Glossary of textile terms — Wool and other animal fibres, their processing and products
11871 : 1986	Methods for determination of flammability and flame resistance of textile fabrics

ANNEX B

(*Clause* 5.2.1)

Constructional Particulars of Blazer Cloth

Sl No.	**Composition**	**Grade of Wool Tops**	**Count of Basic Yarn (Approx)**		**Ends/ dm**	**Picks/ dm**	**Mass g/m^2**	**Length cm**	**Width cm**	**Weave**
			Warp	Weft						
i)	100 percent wool	64s	105 tex (Nm 9·5)	105 tex (Nm 9·5)	140	110	300	As agreed or declared	137	2/1 Prunelle
ii)	100 percent wool	64s	105 tex (Nm 9·5)	105 tex (Nm 9·5)	190	120	370	—	137	3/2 Corkscrew
Tolerance (*see* Table 1)		—	—	—	± 5 percent	± 5 percent	± 5 percent		± 2	—
Method of Test	IS 8476 : 1977	IS 5911 1976	—	—	IS 1963 1981	IS 1963 1981	IS 1964 1970	IS 1954	1969	Visual

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